

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ATSUO WATANABE, KENJIRO NAKAYAMA, and
TAKAHISA HIKIDA

Appeal No. 1997-1888
Application No. 08/221,467

ON BRIEF

Before FRANKFORT, NASE, and LAZARUS, Administrative Patent Judges.

LAZARUS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 2-12, 14, 16, 21, 23-25, 39, 40 and 42-52, which are all of the claims pending in this application.¹

¹ Claims 1, 13, 15, 19, 20, and 22 were canceled via applicants' amendment filed July 29, 1993 (Paper No. 6) and claims 17, 18 and 41 were canceled via applicants' amendment filed June 3, 1994 (Paper No. 11½). Claims 26-38 have been canceled subsequent to the final rejection. See the paper filed November 21, 1995. While the examiner has approved entry of the amendment after final rejection in the margin thereof, we note that this amendment has not been clerically entered.

We affirm-in-part.

BACKGROUND

The appellants' invention relates to an endless belt (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

THE PRIOR ART

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Kiuchi	4,559,258	Dec. 17, 1985
Cronin et al. (Cronin)	4,908,103	Mar. 13, 1990
McCarten	0 336 876	Oct. 11, 1989
	(published European application) ²	

THE REJECTIONS ³

Claims 51 and 52 stand rejected under 35 U.S.C. § 112, first paragraph, for containing subject matter not described in the specification.

² The examiner's final rejection and answer refers to McCarten as "Beloit Corporation" and the appellants' brief refers to it as "the European document '876".

³ Since it has not been restated in the answer, the 35 U.S.C. § 112, first paragraph, rejection of claims 2-12, 14, 16, 21, 23-25, 39, 40, and 42-50 set forth in the final rejection (Paper No. 16) is assumed to have been withdrawn by the examiner in light of the amendments made subsequent to final rejection (see Ex parte Emm, 118 USPQ 180, 181 (Bd. App. 1957)).

Claims 2-12, 14, 16, 21, 23, 39, 40, 42, 43 and 46 stand rejected under 35 U.S.C. § 103 as being unpatentable over McCarten in view of Kiuchi.

Claims 24, 25, 44, 45 and 47-52 stand rejected under 35 U.S.C. § 103 as being unpatentable over McCarten in view of Kiuchi and further in view of Cronin.

Rather than reiterate the conflicting viewpoints regarding the above-noted rejections, we make reference to the final rejection (Paper No. 16, mailed March 21, 1995) and the answer (Paper No. 22, mailed April 16, 1996) for the examiner's complete reasoning in support of the rejections, and to the brief (Paper No. 21, filed November 21, 1995) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and

claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

--The 35 U.S.C. § 112, first paragraph, rejection--

The examiner objects to the specification as originally filed because it does not provide support for "the reinforcing material body extends at an obtuse angle from the inner edge of the endless belt" (claim 52).⁴ The examiner's rejection of claims 51 and 52 is for the reasons set forth in the objection to the specification (answer, page 3). Given the examiner's depiction of the rejection, it is clear to us that the issue is whether the written description supports these claims.

The appellants' acknowledge that "the phrase 'obtuse angle' is not recited in the written specification as originally filed" and argue "[h]owever, this feature is shown in the originally filed drawings" (brief, page 8). The

⁴ The examiner has also rejected claim 51 on this same ground and we interpret the rejection to extend to the similar phrase "the yarn extends at an obtuse angle from the inner edge of the endless belt" as used in claim 51.

appellants refer to Exhibit A (attached to the brief) "with the obtuse angle labeled as ?" drawn in Figures 6 and 16 of the instant application.

The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later- claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language. See Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1116-17 (Fed. Cir. 1991) and In re Kaslow, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983).

It is our view that the specification does not provide written description support for the limitation that "the yarn extends at an obtuse angle from the inner edge of the endless belt" as recited in claim 51. Notwithstanding the appellants' argument to the contrary, the appellants' Exhibit A does not

show the "obtuse angle" recited in claim 51. In particular, we do not see the two sides of the angle θ in the appellants' Exhibit A. Claim 51 states "the yarn extends at an obtuse angle from the inner edge of the endless belt". Thus, angle θ in Fig. 6 of the appellants' Exhibit A should extend between two sides, the yarn (15) and the inner edge of the endless belt, as recited in claim 51. But in the appellants' Exhibit A each individual yarn 15 is a point, not a side. Moreover, the arc representing the angle θ is drawn from somewhere between two yarns, not to a yarn as recited in claim 51. For these reasons we do not see that the obtuse angle of claim 51 is shown in Fig. 6 of the appellants' Exhibit A.

There being no other explanation offered, or apparent, for the "obtuse angle" recited in claim 51, and since our review of the appellants' drawings and specification does not reveal to us any basis for the obtuse angle of the individual yarns as recited in claim 51, we affirm the examiner's rejection of claim 51 under 35 U.S.C. § 112, first paragraph,

for containing subject matter not described in the specification.⁵

Regarding claim 52, the appellants' Exhibit A shows an obtuse angle θ between the bottom surface of the belt (shown as a straight line in Fig. 16) and one of the reinforcing net-like material bodies (37) (also shown as a straight line in Fig. 16). Given this explanation, it is our opinion that the recitation of "the reinforcing material body extends at an obtuse angle from the inner edge of the endless belt" as recited in claim 52, and

as shown in Fig. 16, is supported by the written description.⁶

For this reason, we reverse the examiner's rejection of claim 52 on this ground.⁷

⁵ While it appears that the plane defined by a group of yarns as seen in Figure 6 may define an angular relationship like that urged by the appellants, we note that this is not what is set forth in claim 51 on appeal.

⁶ The applicants' amendment filed January 11, 1995 (Paper No. 15) amends the specification at page 28, line 18 to include the recitation that "the reinforcing net-like body 37 extends at an obtuse angle from the inner edge of the endless belt 55".

--The 35 U.S.C. § 103 rejection over McCarten in view of
Kiuchi--

Upon evaluation of all the evidence before us, it is our conclusion that the evidence adduced by the examiner is not sufficient to establish a prima facie case of obviousness with respect to claims 2-12, 14, 16, 21, 23, 39, 40, 42, 43 and 46.

Accordingly, we will not sustain the examiner's rejection of these claims under 35 U.S.C. § 103 as being unpatentable over McCarten in view of Kiuchi.

In rejecting claims under 35 U.S.C. ? 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A prima facie case of obviousness is established by presenting evidence that the

⁷ Claimed features are required to be shown, pursuant to 37 CFR 1.83(a), in a drawing. Amendment of the drawing to show the obtuse angle of claim 52 should be addressed by the appellants and/or the examiner during any further prosecution.

reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the references before him to make the proposed combination or other modification. See In re Lintner, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). Furthermore, the conclusion that the claimed subject matter is prima facie obvious must be supported by evidence, as shown by some objective teaching in the prior art or by knowledge generally available to one of ordinary skill in the art that would have led that individual to combine the relevant teachings of the references to arrive at the claimed invention. See In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Rejections based on

? 103 must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. The examiner may not, because of doubt that the invention is patentable, resort to speculation, unfounded assumption or hindsight reconstruction to supply deficiencies in the factual basis for the rejection. See In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968).

With this as background, we analyze the prior art applied by the examiner in the rejection of the claims on appeal.

Claims 39 and 40, the only independent claims subject to this rejection, are quite similar except that claim 40 recites a reinforcing material body having a net arrangement instead of a reinforcing yarn as recited in claim 39. Claim 39 is representative and reads as follows:

39. An endless belt for use in a dewatering press to remove water from a wet web which comprises an endless elastic body layer, a fibrous material substantially, uniformly disposed throughout said endless elastic body layer and a reinforcing yarn further disposed within said elastic body layer, the belt having an inner and outer edge with respect to a radial direction and the yarn being arranged inside in the radial direction of said elastic body layer and at least a portion of the yarn being adjacent to the inner edge of the belt.

Thus, claims 39 and 40 are directed to an endless elastic belt having fibrous material substantially, uniformly disposed throughout and a reinforcing yarn (claim 39), or a reinforcing material body (claim 40), disposed adjacent to the inner edge of the belt.

McCarten discloses a blanket (or belt) for an extended nip press in the art of papermaking (column 1, lines 11-25). It is disclosed that the problem of delamination is sought to be overcome by providing a monocoque fiber-reinforced polyurethane blanket (belt) in which the reinforcing fibers are non-woven or partially oriented in the machine direction.

The fibers therefore become randomly oriented throughout the thickness of the blanket (belt) structure (column 2, lines 43-49).

Kiuchi discloses a pressure belt for use with an extended nip press in a papermaking machine and a method for manufacturing the same (column 1, lines 7-10). Pressure belt (3) (Fig. 2) is constructed of layers of synthetic resin (12, 12') formed on both inside and outside surfaces of an endless base fabric (11), and a number of drain channels (14) are then provided over the entire surface of a belt with which felt comes into contact (column 3, lines 8-14). The base fabric (11) is formed in such a way that mesh or net-like fabrics formed from monofilament yarns or multifilament yarns or a combination thereof which are synthetic fibers such as of a

polyester type, a polyamide type, an aromatic polyamide type, an aramide type, or the like are woven flat, either with opposite ends jointed into an endless form or woven endless from the beginning (column 3, lines 35-42).

It is the examiner's opinion that McCarten does not disclose that the endless belt comprises a reinforcing yarn, but that it would have been obvious to one of ordinary skill in the art to use the net disclosed by Kiuchi in the invention of McCarten to improve the dimensional stability (answer, page 4).

The appellants argue that McCarten does not have a reinforcing yarn or reinforcing material body and that Kiuchi, relied on by the examiner for these features, merely discloses a centrally disposed base fabric (11) in the middle of the belt, not adjacent either edge of the belt (brief, page 13). Further, it is argued that it would not be obvious to modify Kiuchi's teachings to place the reinforcement at an edge of the belt (brief, page 15).

It is our opinion that the combination of McCarten and Kiuchi would not have been suggestive of the subject matter of the appellants' claims 39 and 40. Both claims require "a fibrous material substantially, uniformly disposed throughout said endless elastic body layer" and a "reinforcing" structure "adjacent to the inner edge of the belt", described as a "reinforcing yarn" in claim 39 and as a "reinforcing material body" in claim 40. McCarten's disclosure (Fig. 2) of a fiber-reinforced blanket (belt) with the fibers randomly oriented (column 3, line 24) does not teach or suggest either a reinforcing yarn (as recited in the appellants' claim 39) or a reinforcing material body (as recited in the appellants' claim 40) adjacent to the inner edge of the belt. Kiuchi's pressure belt (Fig. 2) is constructed of a layer of synthetic resin formed on both surfaces (sides) of the base fabric composed of filament yarns of synthetic fiber (column 5, lines 5-9) but does not teach or suggest a reinforcing yarn, or a reinforcing material body, adjacent to the inner edge of the belt as recited in the appellants' claims 39 and 40, respectively. Since neither McCarten or Kiuchi teach or suggest reinforcement adjacent to the inner edge of the belt, one of

ordinary skill in the art would not have been apprised of this feature from the general teachings of either McCarten or Kiuchi. Accordingly, it is our opinion that the examiner has not set forth a prima facie case of obviousness and the examiner's 35 U.S.C. § 103 rejection of independent claims 39 and 40, and of dependent claims 2-12, 14, 16, 21, 23, 42, 43 and 46, as unpatentable over McCarten in view of Kiuchi will not be sustained.

--The 35 U.S.C. § 103 rejection over McCarten in view of Kiuchi and further in view of Cronin--

Claim 47 on appeal reads as follows:

47. An endless belt for use in a dewatering press to remove water from a wet web which comprises a fibrous material which has been impregnated with an elastic material whereby the fibrous material is uniformly distributed throughout the elastic material, wherein the hardness of the impregnated fibrous material in the outer radial direction of the belt is different from the hardness of the impregnated fibrous material in the inner radial direction of the belt, the elastic material consisting of two elastic body precursors which are in engagement and which form inner and outer edges of the belt in a radial direction.

Cronin discloses (Fig. 4) a bearing blanket (belt) (44) including a woven base (46) with a first laminate (52) on one

side and a second laminate (58) on a second side (column 8, lines 17-28). As described at column 8, lines 39-47

The laminates 52 and 58 have a hardness differential relative to each other with the first laminate 52 having a hardness which permits flexing of the first laminate 52 during passage through and around the extended nip 18 and around ancillary rolls or the like (not shown). The second laminate 58 has a hardness such that crushing of the recesses 64 and 66 during passage through the extended nip 18 is inhibited so that the fluid flow 68 is unimpeded.

The examiner's rejection relies on McCarten and Kiuchi, as applied in the above rejection, with the further modification that it would have been obvious to provide Cronin's disclosure of an endless belt having a higher hardness on the outer radial surface than on the inner radial surface to obtain an endless belt having flexibility in the radial direction as well as grooves that resist crushing. The appellants argue that "the prior art utilized by the Examiner would also fail to suggest or render obvious this (claim 47) claimed belt" (brief, page 18).

Based on our analysis and review of the applied prior art (McCarten, Kiuchi and Cronin) and claim 47, it is our opinion that the difference is the claim 47 recitation of "the hardness of the impregnated fibrous material in the outer radial direction of the belt is different from the hardness of the impregnated fibrous material in the inner radial direction of the belt". This feature is described by the appellants at page 27 of the specification wherein it is explained that "it is possible to use different types of the fibrous material and/or the elastic body precursor to be impregnated in elastic body layer 36a and elastic body layer 36b". We do not find a teaching or suggestion in McCarten, Kiuchi or Cronin of using impregnated fibrous material of different hardness as recited in the appellants' claim 47. McCarten teaches fibers (38, 39 and 40) distributed throughout polyurethane body (18) but does not teach or suggest the hardness of the outer impregnated radial fibers should be different than the hardness of the inner impregnated radial fibers. Neither Kiuchi or Cronin teach or suggest impregnated fibers distributed throughout the polyurethane belt, much less that the impregnated fibers should be of different hardness. For the above reasons, it is

our opinion that the combination of McCarten, Kiuchi and Cronin would not have been suggestive of the subject matter of the appellants' claim 47. Accordingly, the examiner has not set forth a prima facie case of obviousness and the examiner's 35 U.S.C. § 103 rejection of independent claim 47, and of dependent claims 48, 49 and 50, as unpatentable over McCarten in view of Kiuchi and further in view of Cronin will not be sustained.

The rejection of claims 24, 25, 44, 45, 51 and 52 which depend from claim 39 or claim 40 will not be sustained for the same reason as noted in the above rejection based on McCarten and Kiuchi since Cronin does not make up for the deficiency (a teaching or suggestion of reinforcement adjacent to the inner edge of the belt) in McCarten and Kiuchi.

CONCLUSION

To summarize, the decision of the examiner to reject claim 51 under 35 U.S.C. § 112, first paragraph, is affirmed; the decision of the examiner to reject claim 52 under 35

U.S.C. § 112, first paragraph, is reversed; and, the decision of the examiner to reject claims 2-12, 14, 16, 21, 23-25, 39, 40 and 42-52 under 35 U.S.C. § 103 is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

CHARLES E. FRANKFORT)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
JEFFREY V. NASE)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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APJ NASE

DECISION: **AFFIRMED-IN-PART**

Prepared By:

DRAFT TYPED: 19 Mar 02

FINAL TYPED: